This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A method, comprising:

generating <u>local</u> topology information including information on local interfaces in a <u>local</u> device and remote interfaces in at least one <u>downstream</u> remote device that connect to the local interfaces identified in the <u>local</u> topology information, <u>wherein the at least one downstream</u> <u>remote device comprises an end device or expander connecting to further end devices or</u> <u>expanders to which the local interfaces connect;</u>

for each connected remote interface, determining a device type of the [[one]] <u>downstream</u> remote device including the remote interface; and

for each local interface ~~connecting~~ <u>attached</u> to one remote interface in one <u>of the</u> <u>downstream</u> remote <u>devices whose determined device type is</u> ~~device~~ of a specified device type, initiating communication with the remote interface to access remote topology information from the <u>downstream</u> remote device indicating <u>downstream</u> devices attached directly and indirectly to the remote device<u>, wherein the downstream devices with respect to the remote device comprise</u> <u>an end device or expander connecting to further end devices or expanders to which the remote</u> <u>device connects</u>.

2. (Currently Amended) The method of claim 1, further comprising:

merging the <u>local</u> topology information with the remote topology information.

3. (Original) The method of claim 1, wherein the specified device type comprises an expander.

4. (Currently Amended) The method of claim 1, further comprising:

receiving at the remote device a request for the remote topology information from the <u>local</u> device;

determining at the remote device whether the remote topology information is completed, <u>wherein the remote topology information is completed if the remote topology information</u>

indicates information on downstream devices to which the remote device is directly and indirectly connected; and

transmitting the remote topology information to the local device in response to determining that the remote topology information is completed.

5.   (Canceled)

6.   (Original) The method of claim 5, wherein the remote topology information is completed in response to completing:

determining the device type of at least one additional device to which the remote device connects;

receiving additional topology information from the at least one additional device to which the remote device connects that is of the specified device type; and

merging the received additional topology information with the remote topology information .

7.   (Canceled)

8.   (Canceled)

9.   (Currently Amended) The method of claim 1, wherein the remote topology information includes an entry for devices to which the remote device including the completed topology information connects directly or indirectly, wherein each entry indicates a first address and first interface of a first device, a second address and second interface of a second device connected directly to the first device, and a device type of the second device, wherein the remote device including the remote topology information connects directly or indirectly to all first and second devices identified in the remote topology information.

10.   (Original) The method of claim 1, wherein the devices comprise SAS devices and wherein the interfaces comprise SAS PHYs, and wherein each device in the topology has a unique SAS address.

11.   (Currently Amended) A system in communication with at least one remote device, wherein each remote device includes at least one remote interface and remote topology information, comprising:

at least one local interface;

circuitry capable of causing operations to be performed, the operations comprising:

[[(i)]] generating local topology information including information on local interfaces and remote interfaces in at least one downstream remote device that connect to the local interfaces identified in the local topology information, wherein the at least one downstream remote device comprises an end device or expander connecting to further end devices or expanders to which the local interfaces connect;

[[(ii)]] for each connected remote interface, determining a device type of the [[one]] downstream remote device including the remote interface; and

[[(iii)]] for each local interface connecting attached to one remote interface in one of the downstream remote devices whose determined device type is device of a specified device type, initiating communication with the remote interface to access remote topology information from the downstream remote device indicating downstream devices attached directly and indirectly to the remote device, wherein the downstream devices with respect to the remote device comprise an end device or expander connecting to further end devices or expanders to which the remote device connects.

12.   (Currently Amended) The system of claim 11, wherein the operations further comprise:

merging the local topology information with the remote topology information.

13.   (Original) The system of claim 11, wherein the specified device type comprises an expander.

14.   (Canceled)

15.   (Currently Amended) The system of claim 11, wherein the remote topology information includes an entry for devices to which the remote device including the completed

topology information connects directly or indirectly, wherein each entry indicates a first address

and first interface of a first device, a second address and second interface of a second device

connected directly to the first device, and a device type of the second device, wherein the remote

device including the remote topology information connects directly or indirectly to all first and

second devices identified in the remote topology information

16.   (Currently Amended) A system in communication with at least one remote device

and one upstream device, wherein each remote device includes at least one remote interface and

remote topology information, comprising:

at least one local interface;

circuitry capable of causing operations to be performed, the operations comprising:

[[(i)]] receiving a request for remote topology information from the upstream

device, wherein the remote topology information includes information on the at least one

local interface and remote devices in communication with the at least one local interface;

[[(ii)]] determining whether the remote topology information is completed,

wherein the remote topology information is completed if the remote topology information

indicates information on downstream devices to which the remote device is directly and

indirectly connected; and

[[(iii)]] transmitting the remote topology information to the upstream device in

response to determining that the remote topology information is completed.

17.   (Canceled)

18.   (Original) The system of claim 16, wherein the remote topology information is

completed in response to the circuitry completing:

determining the device type of at least one additional connected remote device;

receiving additional topology information from the at least one additional connected

remote device that is of the specified device type; and

merging the received additional topology information with the remote topology

information .

19.   (Currently Amended) A system in communication with at least one remote device, wherein each remote device includes at least one remote interface and remote topology information, comprising:

at least one local interface;

a motherboard;

circuitry integrated with the motherboard capable of causing operations to be performed, the operations comprising:

[[(i)]] generating local topology information including information on the at least one local interface and remote interfaces in at least one downstream remote device that connect to the local interfaces identified in the local topology information, wherein the at least one downstream remote device comprises an end device or expander connecting to further end devices or expanders to which the local interfaces connect;

[[(ii)]] for each connected remote interface, determining a device type of the one downstream remote device including the remote interface; and

[[(iii)]] for each local interface connecting attached to one remote interface in one of the downstream remote devices whose determined device type is device of a specified device type, initiating communication with the remote interface to access remote topology information from the downstream remote device indicating downstream devices attached directly and indirectly to the remote device, wherein the downstream devices with respect to the remote device comprise an end device or expander connecting to further end devices or expanders to which the remote device connects.

20.   (Currently Amended) The system of claim 19, wherein the operations further comprise:

merging the local topology information with the remote topology information.

21.   (Original) The system of claim 20, wherein the specified device type comprises an expander.

22.   (Currently Amended) An article of manufacture in communication with at least one remote device, each remote device having at least one interface, wherein the article of manufacture is capable of causing operations to be performed, the operations comprising:

generating local topology information including information on local interfaces and remote interfaces in at least one downstream remote device that connect to the local interfaces identified in the local topology information, wherein the at least one downstream remote device comprises an end device or expander connecting to further end devices or expanders to which the local interfaces connect;

for each connected remote interface, determining a device type of the one downstream remote device including the remote interface; and

for each local interface connecting attached to one remote interface in one of the downstream remote devices whose determined device type is of a specified device type, initiating communication with the remote interface to access remote topology information from the downstream remote device indicating downstream devices attached directly and indirectly to the remote device, wherein the downstream devices with respect to the remote device comprise an end device or expander connecting to further end devices or expanders to which the remote device connects.

23.   (Currently Amended) The article of manufacture of claim 22, wherein the operations further comprise:

merging the local topology information with the remote topology information.

24.   (Original) The article of manufacture of claim 22, wherein the specified device type comprises an expander.

25.   (Canceled)

26.   (Currently Amended) The article of manufacture of claim 22, wherein the remote topology information includes an entry for devices to which the remote device including the completed topology information connects directly or indirectly, wherein each entry indicates a first address and first interface of a first device, a second address and second interface of a

second device connected directly to the first device, and a device type of the second device, wherein the <u>remote</u> device including the <u>remote</u> topology information connects directly or indirectly to all first and second devices identified in the <u>remote</u> topology information.

27.   (Currently Amended) An article of manufacture in communication with at least one remote device and an upstream device, wherein each remote device includes at least one remote interface and remote topology information, wherein the article of manufacture is capable of causing operations to be performed, the operations comprising:

receiving a request for remote topology information from the upstream device, wherein the remote topology information includes information on the at least one local interface and remote devices in communication with the at least one local interface;

determining whether the remote topology information is completed<u>, wherein the remote topology information is completed if the remote topology information indicates information on downstream devices to which the remote device is directly and indirectly connected</u>; and

transmitting the remote topology information to the device in response to determining that the remote topology information is completed.

28.   (Canceled)

29.   (Original) The article of manufacture of claim 27 wherein the remote topology information is completed in response to completing:

determining the device type of at least one connected additional device;

receiving additional topology information from the at least one additional connected device that is of the specified device type; and

merging the received additional topology information with the remote topology information.